

Poquessing Watershed Partnership Meeting
Wednesday, September 29, 2010, 10:00 AM to noon
Glen Foerd on the Delaware

See list of attendees at end of minutes.

Meeting Minutes

Please note that these minutes and the PowerPoint presentations shown at the meeting are being posted at http://www.phillywatersheds.org/poq_working

Welcome, Introductions, and Partnership Updates

Paul Racette and Joanne Dahme welcomed the Partners and provided an overview of meeting to follow, which focused on Act 167 stormwater management plan.

Paul Racette then provided brief overview of Partnership activities including:

- *Going Back to Our Roots* planting day at Saint Christopher's Elementary school
- Rain barrel workshop on same day (April 30th) at adjacent Cranaleith Spiritual Center.
- PWD-URS backyard stream buffer program; currently on the search for a high visibility stream restoration project in the Poquessing. A stream-side planting event in the Pennypack Watershed (at Fountain Point Condos) is planned for October.
- PWD sponsored workshops for large parcel owners are addressing stormwater fee credits for stormwater best management projects. August 30th workshop held for about 30 people; additional workshops planned.
- Chemical, physical, and biological data gathered in the watershed are being compiled into a *Comprehensive Characterization Report*. Monitoring data results also available on PWD's Office of Watershed web site (see interactive maps with monitoring locations at www.phillywatersheds.org/your_watershed/poquessing).

Partners at meeting provided additional updates as follows:

- Bruce Conner of Friend's of Poquessing noted that the Northeast Airport is expanding on its pilot lawn to meadow demonstration project. They are experimenting with short grasses that provide stormwater benefits but that don't attract wildlife that are hazards to aviation.
- Jim Kates of Lower Southampton Environmental Advisory Council noted that as the Township updates their comprehensive plans, there is an effort to include language that extends percent impervious surface restrictions to commercial and industrial properties.
- Tony Belfield, Bensalem Township Councilman, noted that the Township recently updated its wetland buffer ordinances. He will send to Paul DeBarry.
- Mike Thompson of the Philadelphia City Planning Commission noted that the city is updating its zoning code and there is an opportunity to provide comments. In particular, they are looking at including stream buffer provisions and restrictions on development of steep slopes (e.g. require engineering and erosion control plan on 15% to 25% slopes, and prohibit development on greater than 25% slopes). Comment period will end on November 12; check <http://www.zoningmatters.org/> to review and comment.
- Mike also noted that the bicycle and pedestrian comprehensive plan is under revision. Phase 2 revisions will address pedestrian access to open space. Mike suggested that an adhoc group be formed to address open space access, focusing on trail access points and the development of public trails.

- Jeff Featherstone of Temple University noted that FEMA is now releasing updated flood plain maps for Montgomery County. They will hold three meetings, with an October 19th meeting at Temple Ambler campus to address the Pennypack Watershed and Sandy Run (Wissahickon Watershed) maps developed by Temple. A meeting on October 27th at the Plymouth Township Fire Training Center should include Poquessing maps. Meetings will be held at 3-5pm and 6-8pm on these dates. Bucks County map updates are still several months out.

Act 167 Data Collection- Paul DeBarry of NTM Engineering

Paul described the following maps under development for Act 167 plan:

- Geology
- Soils. These dictate infiltration rates. Most soils in Poquessing are low infiltration rates (e.g. mostly C and D class). A and B, which infiltrate well, are absent or rare. Soil types are used for stormwater modeling and to calculate runoff rates for stormwater projects.
- Land use. Ranges from agriculture to urban to some wooded. They will look at current and future land use to assess stormwater runoff trends.
- Flood Plain. In particular, they will look at where there is development in flood plain to help delineate problem areas.
- Flood and stormwater facilities (much of this provided by municipalities).
- Stormwater outfalls.

Paul also described how he is using the municipal data collection forms. The problem area forms are very valuable for both identifying problem areas and recommending solutions. Paul noted the following types of problem areas under assessment:

- Flood plain encroachment
- Undersized storm drains
- Undersized stream channels (e.g. now undersized because of excess runoff due to urbanization of the watershed).
- Erosion and sediment control issues. Paul noted that URS inventory of stream banks is being used to show where there are erosion issues, particularly where there are clumps of erosion points indicating a common upstream cause. They will define a *bank erosion hazard index*, and color code erosion points to look for trends and possible causes.
- Water quality and pollution issues.
- Undersized bridges and culverts. For example, backwater problems are created when stormwater backs up behind a bridge. In some cases this may cause building flooding. In other cases this may act to detain stormwater. Paul noted that PennDOT can only address bridge problems that present a safety concern.

In some cases these problems will be regional in nature and require an approach such as a regional stormwater management facility. In other cases there are more local problems that might be addressed by a local best management practice. Overall goal is to identify problems and corresponding solutions.

Act 167 Modeling-James Knighton of PWD

James described the parameters that are plugged into the stormwater models:

- Sub-watershed boundaries, sub-sheds are areas that take rainfall and dump it into creek at certain point.

- Survey points along tributaries and main stem to collect stream profile data. Two foot contour lines for cross-sections of creek.
- Bridge and culvert dimensions
- Impervious surface cover
- Soil groups
- In-stream flow measurements at USGS gauging stations.
- Rain gauges; have for city, **but need gauges for areas outside of city; let James know if you have rain gauge data sources.**

James then described what will be modeled:

- Volume
- Peak flow
- Compare volume from model with what is measured in creek at USGS gauges to calibrate model, which then allows for analysis at other points in watershed.
- Bridge constriction modeling; how often bridge will be under-sized for the amount of water that needs to pass under them. There was some discussion of solutions for under-capacity bridges (e.g. better infiltration upstream, regional SW facility upstream, take out bridge, or retrofit bridge). James noted that some of the bridges are privately owned foot bridges; it was decided it would be a good idea to distinguish between these bridges and those that are publically owned.

Act 167 final products-Paul DeBarry

Paul described what would be produced by the Act 167 plan:

- Inventory of basin retrofit sites and other BMPs. Many basins designed to manage peak flow; look at retrofits that extend detention, infiltrate, and manage water quality.
- Inventory of problem areas and proposed solutions
- Model ordinance (handed out Tookany/Tacony-Frankford ordinance as example of what was developed for another city/suburban watershed).

Pennypack Act 167- Jeff Featherstone

Jeff provided an update on the Pennypack plan:

- Plan nearly finalization; there is an October 19th meeting for Pennypack Watershed Partnership to show final products.
- Have 360 proposed retrofit sites; are pricing them out and showing infiltration and extended detention capabilities. In response to Paul Racette's question, Jeff noted that creating meadows in the basins provides water quality benefits, but that you need to increase volume in order to get extended detention and infiltration.
- Flood hazard maps developed; new FEMA maps to be released in October.
- Ran stormwater management model (SWMM model). Jeff showed how control of 1 inch rainfall events would significantly reduce peak flow rates.

Act 167 ordinance-Paul DeBarry

The final Tookany/Tacony-Frankford (TTF) Act 167 ordinance was handed out on disk; Paul described generally what will be in the ordinance. Final Poquessing ordinance must be agreed upon by participating municipalities, and is then subject to adoption within 6 months of final ordinance (required by Act 167 legislation).

Paul's overview of ordinance components and issues to be determined by municipalities:

- Need to define what is baseline (e.g. existing conditions versus pre-development; makes a big difference in what amount of stormwater controls will be required).
- Distinguish between *directly connected impervious areas* vs. *disconnected from impervious areas*
- Need to confirm definitions (e.g. what is reconstruction, redevelopment, repaving, etc).
- Applicability. Ordinance applies to all land uses unless exemptions (and there are typically few of them).
- New development versus redevelopment, what sizes trigger ordinance?
- Section 106 exemptions (will need to be confirmed):
 - For example, *disconnected from impervious areas* regulated activities exempt if less than 250 ft² of new pervious surface, exempt from peak rate and drainage control plan.
 - For example, greater than 250 ft² and less than 1000 ft² are exempt from peak rate control.
 - For example, TTF ordinance in Philadelphia currently exempts less than 15,000 ft². Joanne Dahme noted that PWD wants to see this exemption reduced to 5,000 ft² for the Pennypack and Poquessing ordinance.
 - Will need to have municipal engineers meeting to review the criteria.
- Inspection requirements (reimbursable by the state if Act 167 funds available).
- Fees and expenses; allows that these can be collected from developers, rather than be a municipal cost.
- O/M responsibilities
- Enforcement and penalties

Paul noted that the schedule calls for a fully developed plan including ordinance by December 2011. Look for draft of plan in early summer to give time for review comment phase.

General Questions and Discussion

Tony Belfield, Bensalem Township mentioned that they have a proposed plan for a regional detention facility through an arranged a land swap with the Bensalem School district. He will provide Paul DeBarry with the data“

Bruce Connor asked who enforces the Act 167 plan/requirements. Overall, Act 167 requires that municipalities adopt ordinance or have ordinances consistent with the Act 167 ordinance. The Counties have a role in approving municipal ordinances.

Alice Lambert of Bucks County Planning Commission noted that there are no regulations that require BMP retrofits unless associated with development or re-development (i.e. Act 167 is not retroactive to historical development). It was noted that PWD as a utility can implement stormwater fees, and that the municipalities would need to create stormwater authorities to do the same.

Joanne Dahme of PWD noted that once facilities in the city develop BMP projects to get credit towards the new stormwater fees, the city is responsible for ensuring that the BMP facilities remain functional. They do this by periodic inspections, and by requiring that BMPs are re-certified every 4 years. Timing of credit approval depends on what type of credit (e.g. gross area or impervious surface credits, type of soil, type of BMP).

